

. What is claimed is:

1. A transformer core structure utilized in an inverter transformer, the transformer core structure comprising:

5        a first core having a plurality of fork elements, a connection element, and a bottom element, the fork elements being parallel to each other and coupling to one side of the connection element, another side of the connection element further coupling to the bottom element; and

10      a second core having a plurality of fork position openings and a bottom opening, wherein when the first core is coupled to the second core, each of the fork position openings corresponds to one of the fork elements and the bottom opening corresponds to the bottom element.

2. The transformer core structure of claim 1, wherein the second core further  
15      comprises a bottom indentation to form a bottom gap between the first core and the second core when the first core is coupled to the second core.

3. The transformer core structure of claim 2, wherein the second core further  
comprises a plurality of fork position indentations to form a plurality of fork position  
20      gaps between the first core and the second core when the first core is coupled to the second core, wherein a quantity of the fork position indentations is equal to a quantity of the fork elements.

4. The transformer core structure of claim 3, wherein the inverter converter further comprises a primary coil module and a plurality of secondary coil modules, the bottom indentation and the fork position indentations further coupling to the primary coil module and the secondary coil modules so as to be fixed on the first core when the  
5 first core is coupled to the second core.

5. The transformer core structure of claim 4, wherein each of the secondary coil modules of the inverter converter further comprises a plurality of partition troughs.

10 6. A transformer core structure utilized in an inverter transformer, the transformer core structure comprising:

a Y core having two fork elements, a connection element, and a bottom element, the fork elements being parallel to each other and coupling to one side of the connection element, and another side of the connection element further coupling to the  
15 bottom element; and

a U core having two fork position openings and a bottom opening, wherein when the U core is coupled to the Y core, each of the fork position openings corresponds to one of the fork elements and the bottom opening corresponds to the bottom element.

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7. The transformer core structure of claim 6, wherein the U core further comprises a bottom indentation to form a bottom gap between the Y core and the U core when the U core is coupled to the Y core.

8. The transformer core structure of claim 7, wherein the U core further comprises two fork position indentations to form two fork position gaps between the Y core and the U core when the U core is coupled to the Y core.

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9. The transformer core structure of claim 8, wherein the inverter converter further comprises a primary coil module and two secondary coil modules, the bottom indentation and the fork position indentations further coupling to the primary coil module and the secondary coil modules so as to be fixed on the Y core when the U 10 core is coupled to the Y core.

10. The transformer core structure of claim 9, wherein each of the secondary coil modules of the inverter converter further comprises a plurality of partition troughs.

15 11. An inverter transformer, comprising:

a first core having a plurality of fork elements, a connection element, and a bottom element, the fork elements being parallel to each other and coupling to one side of the connection element, and another side of the connection element further coupling to the bottom element;

20 a second core having a plurality of fork position openings and a bottom opening, wherein when the first core is coupled to the second core, each of the fork position openings corresponds to one of the fork elements one-to-one and the bottom opening corresponds to the bottom element;

a primary coil module coupling to the bottom element of the first core; and  
a plurality of secondary coil module coupling one-to-one to the fork elements.

12. The inverter transformer of claim 11, wherein the second core further  
5 comprises a bottom indentation to form a bottom gap between the first core and the  
second core when the first core is coupled to the second core, wherein the bottom  
indentation further locks the primary coil module.

13. The inverter transformer of claim 12, wherein the second core further  
10 comprises a plurality of fork position indentations to form a plurality of fork position  
gaps between the first core and the second core when the first core is coupled to the  
second core, wherein each of the fork position indentations further locks one-to-one  
with one of the secondary coil modules.

15 14. The inverter transformer of claim 13, wherein each of the secondary coil  
modules of the inverter converter further comprises a plurality of partition troughs  
parallel to a assembly direction of the inverter transformer fixed on a print circuit  
board so that magnetic circuits formed by the secondary coil module are parallel to the  
assembly direction of the inverter transformer fixed on the print circuit board.